



# AIS LANTERN MONITORING MODULE

# MFAIS



MFAIS circuits are AIS AtoN devices integrated inside our LED lanterns.

The AIS AtoN transponder provides automatic information on the GPS position of the marine aid to navigation (AtoN); thus making easy the location and identification of buoys, beacons and lighthouses on a vessel or an AIS Base Station chart.

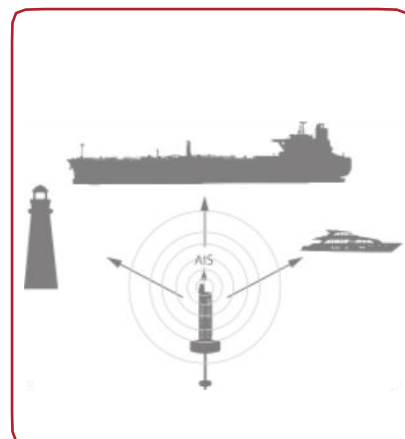
Thanks to its minimum energy consumption, those circuits can be integrated with our self-powered lanterns.

Its modular construction allows its installation subsequently to the purchase of a MSM lantern.

MFAIS complies with IMO, IEC, ITU and IALA Standards.

## FEATURES

- ✓ Broadcasting of aids-to-navigation (AtoN) identification data on Message 21, as well as basic data and operating status.
- ✓ Ideal for remote monitoring and control of MSM lanterns, providing alarms and status on Message 6.
- ✓ Manufactured according to IEC AIS Aids to Navigation, IEC 62320-2, IEC 60945, IEC 61108-1, IEC 61162-1/2, ITU-R M.1371-4, IALA A-126 Standards.
- ✓ Minimum energy consumption (<0.06 Ah/day, Type 1).
- ✓ Two versions are available:  
MFAIS-1: Type 1, transmitter only.  
MFAIS-3: Type 3, transmitter-receiver.
- ✓ Capability of generating virtual and synthetic nav aids (AtoN), and also repeater function.
- ✓ Configuration via software under Windows environment and commands via VDL radio.
- ✓ Position alarm generator by chain breaking (only buoys).
- ✓ Remote Monitoring Centre Software via AIS available.



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Specifications subject to change without previous notice.



## Message 21 content

MMSI number / Name of AtoN.
WGS84 position.
GPS time and date.
Type of AtoN.
AtoN indicator: Real, Synthetic, Virtual.
Out of position alarm.
Racon failure alarm.
Lantern failure alarm.
Day-Night mode lantern status.

## Power supply

Power input:	10 to 32V d.c.
Typical consumption (*):	MFAIS-1: 0.06 Ah/day. MFAIS-3: 0.5 Ah/day.

(\*)Emission every 3 min, at 12.5W.

## MFAIS RF module

Frequency range:	156.025 to 162.025 MHz.
Transmission power:	1, 2, 5, 12.5W (adjustable).
Number of receivers:	2.
Receiver sensitivity:	< -110 dBm (Type 3).
AIS 1 frequency:	161.975 MHz 25 Khz.
AIS 2 frequency:	162.025 MHz 25 Khz.
Auto-diagnosis:	Emission power test and SWR measurement.

## Transmission

Possible messages:	21, 6, 12, 14, 25, 26.
Standard transmission:	Every 3 min, adjustable.
Control:	Type 1: FATDMA. Type 3: FATDMA, RATDMA.

## GPS

Integrated receptor:	50 channels. IEC 61108-1.
Antenna:	Active 35 dB, internal.
Optional	Glionass.

## Versions

MFAIS Type 1:	Transmitter only.
MFAIS Type 3:	Transmitter and receiver.

## Standards

IEC AIS Aids to Navigation.	IALA A-126. Edition 1.4.
IEC 62320-2. Edition 1.	IEC 61162-1/2. Edition 2.0.
IEC 60945. Edition 4.	ITU-R M.1371-4.
IEC 61108-1.	

## Lantern status signals (Message 6)

MMSI number / Name of AtoN.
Battery voltage (V).
Lantern current (A).
Solar current (A).
Day-Night mode lantern status.

## Alarm signals (Message 6)

Lantern failure alarm.
Racon failure alarm.
Out of position alarm.
Low battery voltage.
Flasher failure.
LED diodes failure.
Wrong flashing rhythm.
Excess consumption of the lantern.

## Command from Control Centre to beacon (Type 3) (Message 6)

Remote beacon switching-on.
Remote beacon switching-off.
Remote Racon switching-on/off.
General system reset.

Other status and alarm signals available under request.